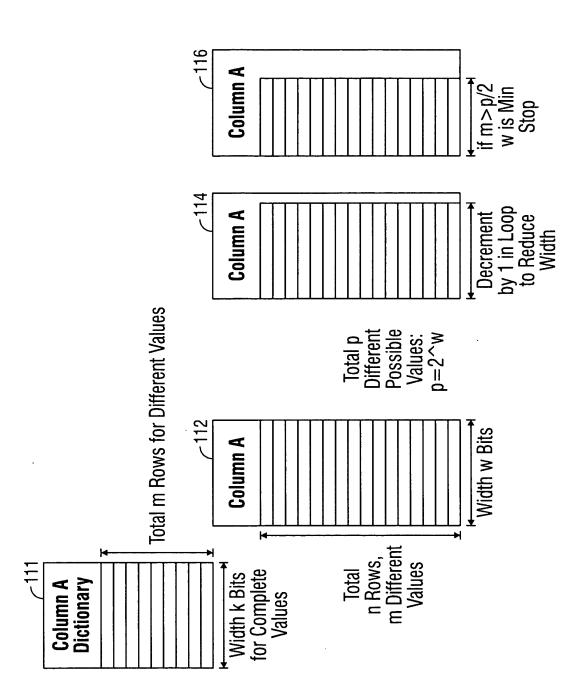


FIG. 1A

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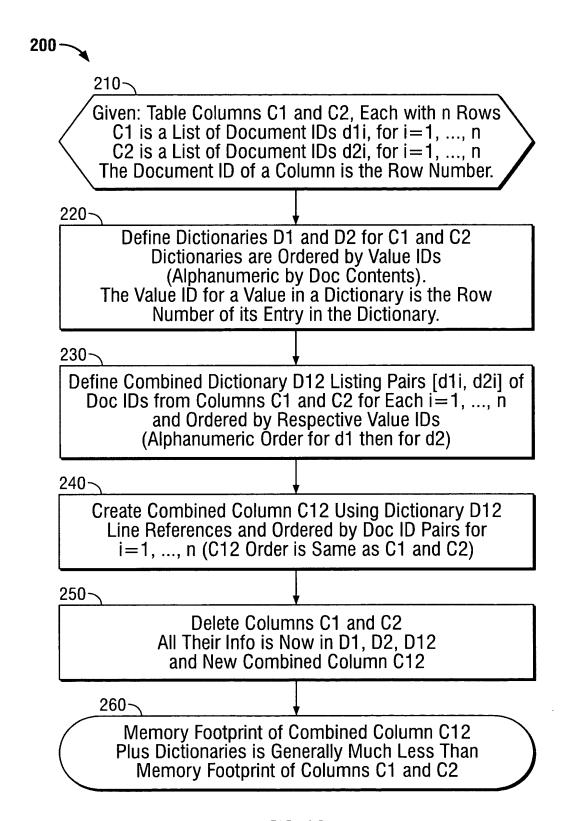


FIG. 2A

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USING COLUMN CARDINALITY INFORMATION

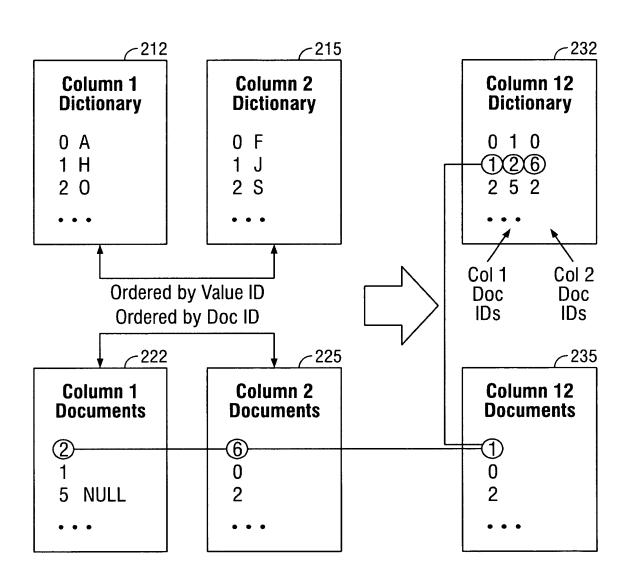


FIG. 2B

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330	Dictionary	m1 * k1	m2 * k2	m1 * m2 * (w1 + w2)	mm * (w1 + w2)
320	Column	n * w1	n * w2	n * (w1 + w2)	m * vm
310	Memory Required (Bits)	Original 1	Original 2	Combined 12 (Worst Case)	Combined 12 (Best Case)
ന		335	340	345	350

	Key
_	Number of Rows in Original Columns (and in Original Table)
w.	Width of Column j in Bits (Minimized as in Method 100, Fig. 1A)
Œ.	Cardinality of Column j (i.e., Number of Different Values in Column j)
Z	Width of Widest Value in Column j in Bits (Typically, kj>wj)
mm	Maximum of m1 and m2 (i.e., Larger of the Two Values)
WIII	Maximum of w1 and w2 (i.e., Larger of the Two Values)